

Response under 37 C.F.R. 1.116

Applicant: Mohammad M. Samii

Serial No.: 10/634,424

Filed: August 5, 2003

Docket No.: 200205843-6

Title: PHOTOSENSOR ACTIVATION OF AN EJECTION ELEMENT OF A FLUID-EJECTION DEVICE**IN THE CLAIMS**

1.(Previously Presented) A printhead assembly comprising:

a plurality of ejection elements, each of the ejection elements configured to cause fluid to be ejected when the ejection element is activated;

a plurality of latches; and

a plurality of junction photosensors, each junction photosensor coupled to one of the ejection elements via one of the latches, each junction photosensor configured to generate an activation signal that causes the ejection element coupled to the photosensor to be activated when the photosensor is illuminated by a light source.

2.(Original) The printhead assembly of claim 1, wherein the photosensors are photodiodes.

3.(Original) The printhead assembly of claim 1, wherein the photosensors are phototransistors.

4.(Original) The printhead assembly of claim 1, and further comprising a plurality of amplifiers, each photosensor being coupled to one of the ejection elements via one of the amplifiers.

5.(Original) The printhead assembly of claim 4, wherein each amplifier comprises a field effect transistor (FET).

6.(Original) The printhead assembly of claim 4, wherein each amplifier comprises a first and a second FET, each FET including a gate, a source, and a drain.

7.(Previously Presented) The printhead assembly of claim 6, wherein each amplifier further comprises one of the latches, and wherein the latch of each amplifier is coupled between one of the photosensors and the gate of the first FET of the amplifier, and wherein the first FET of each amplifier is configured to be turned on when the photosensor coupled to the first FET via the latch is illuminated by the light source.

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8.(Original) The printhead assembly of claim 7, wherein the second FET of each amplifier is coupled to the first FET of the amplifier and to one of the ejection elements, the second FET of each amplifier configured to provide a drive signal for activating the ejection element coupled to the second FET when the first FET of the amplifier is turned on.

9.(Original) The printhead assembly of claim 1, wherein the plurality of printhead fluid ejection elements are formed on a glass substrate.

10.(Original) The printhead assembly of claim 1, wherein the ejection elements are thermal inkjet elements.

11.(Original) The printhead assembly of claim 1, wherein the ejection elements are piezoelectric inkjet elements.

12.(Original) The printhead assembly of claim 1, wherein the plurality of ejection elements are organized into four page-wide-arrays of ejection elements.

13.(Original) The printhead assembly of claim 1, wherein the printhead assembly is a page-wide-array printhead assembly.

14.(Original) The printhead assembly of claim 1, wherein each photosensor coupled to one of the ejection elements is positioned substantially adjacent to the ejection element that it is coupled to.

15. – 22.(Cancelled)

23.(Previously Presented) An activation element of a fluid ejection device comprising:
an ejection element that causes fluid to be ejected from an associated nozzle chamber when activated; and

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a junction photosensor coupled to the ejection element via a latch and a multi-transistor amplifier, the photosensor configured to generate an activation signal that causes the ejection element coupled to the photosensor to be activated when the photosensor is illuminated by a light source.

24. – 25.(Cancelled)

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